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ABSTRACT

An approach to designing diagnostic/prescriptive staff development programs for bilingual education, in which bilingual education is viewed as an innovation in the process of change, was explored. The aims were to: provide a method for defining bilingual programs in progress and determining the degree of implementation; determine teacher concerns; determine the levels of use of such programs; and draw conclusions from study results to aid in staff development for bilingual education programs. The Concerns Based Adoption Model (CBAM), designed to conceptualize and facilitate educational change, provided the framework within which an investigation of bilingual programs in four school districts was conducted. CBAM postulates two dimensions along which individuals grow as their familiarity with and use of an innovation increases: Stages of Concern About the Innovation and Levels of Use of the Innovation. Two questionnaire and interview instruments developed by CBAM, supplemented by two additional instruments to obtain more specific information regarding teachers concerns about bilingual education programs in their district and patterns of the programs' use, were used in the study. Results indicate that, with modifications, CBAM can be used by school districts to improve the effectiveness and productivity of their bilingual education programs. (Author/AEF)

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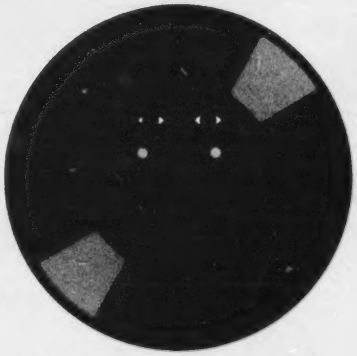

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MEASURING DEGREE OF IMPLEMENTATION OF BILINGUAL EDUCATION PROGRAMS: IMPLICATIONS FOR STAFF DEVELOPMENT AND PROGRAM EVALUATION

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MEASURING DEGREE OF IMPLEMENTATION OF BILINGUAL EDUCATION PROGRAMS: IMPLICATIONS FOR STAFF DEVELOPMENT AND PROGRAM EVALUATION*

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INTRODUCTION

Developing effective school personnel in bilingual education is a major concern of educators at the local, state, and national levels. Lack of trained staff has been cited as an important factor influencing implementation of bilingual education programs (Rand Corporation, 1977). An examination of the literature on current practices in staff development reveals that, while the need for more and better-trained staff is clearly indicated, an approach for identifying and providing for the specific needs of individual staff members and/or groups of project personnel has not been forthcoming. Further, no process has been developed to determine the quality of programs and the extent to which bilingual education is used in particular school districts.

Thus, although bilingual education programs have been in operation for a decade, little is known about their degree of utilization or the concerns and questions teachers may have about such implementation. To fill this void, the Division of Bilingual and

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*This paper was presented at the National Association for Bilingual Education meeting, Anaheim, California, April, 1980.

International Education of the Southwest Educational Development Laboratory (SEDL), under contract with the National Institute of Education, conducted a study with the following objectives relating to implementation of selected bilingual education programs in Texas:

1. Develop a procedure for identifying types (configurations) of bilingual education programs implemented in the field.
2. Determine teacher concerns about such implementation.
3. Determine the levels of use of such programs.
4. Draw conclusions based on the findings of use levels and implementation concerns to aid in staff development for bilingual education programs.

Concern for a more effective staff development program for bilingual education in Texas came into focus in the spring of 1977 when the Texas Education Agency contracted with SEDL to investigate current practices and make recommendations for creating a more effective staff development program. At the time it began work on the Survey of Bilingual Education Staff Development in Texas (Southwest Educational Development Laboratory, 1977), the Division of Bilingual and International Education of SEDL embarked on an intensive program to study current trends in staff development across the nation, with particular attention to these trends as they relate to training teachers to work in a bilingual setting. A thorough review of the literature was undertaken in the related areas of staff development, change and innovation, models of bilingual education, and implementation and effects of bilingual education. An important conclusion drawn from this review was that a concise and integrated definition of bilingual education models, both theo-

retical and extant, is needed to determine the parameters for educational innovation in the public schools. A second conclusion was that the bulk of the studies are investigations of the impact of bilingual education on children and summative evaluations of projects that largely ignored the "degree of implementation" variable. It is clear that effects and potential effects of bilingual education cannot be evaluated adequately until a reliable process is found for determining the level of use that bilingual education has reached in the innovation-adoption process within the *classroom*, the *school*, and the *district*.

After a thorough analysis of the context of staff development, the staff decided to look at bilingual education as an innovation in the process of change and to view staff development as an integral component of that innovation. Instituted voluntarily on a large scale a decade ago and recently mandated by several states, a number of discrepancies between the current state of bilingual education's implementation and its optimal use still exist. It is apparent that "change" or innovation adoption is not accomplished merely because a decision maker has decreed it. The literature on change and innovation suggests that educational change should be viewed as a developmental *process* in which the users progress through stages from non-use to high levels of use. As all or most individuals demonstrate a high level of use, the innovation may reach optimal institutionalization.

Recent work by Gene Hall and his associates at the University of Texas Research and Development Center for Teacher Education (Hall *et al.*, 1977; Loucks *et al.*, 1975) has resulted in the de-

velopment of the *Concerns-Based Adoption Model (CBAM)*, designed to conceptualize and facilitate educational change. The model was constructed to assist those in the process of innovation adoption, and to provide a framework within which to conduct an empirical investigation of the adoption process. The *CBAM* was designed to define the degree of involvement with and quality of use of the innovation by all members within a project staff and provide the adoption agent (school or district) with diagnostic information on which to build prescriptive interventions for each user in the system. Before the present study, the *CBAM* was used to investigate a number of educational innovations but not bilingual education. A primary goal of our study, therefore, was to determine the potential applicability of *CBAM* to bilingual education in the hopes of developing a process that school districts could use to improve the effectiveness and productivity of their bilingual education programs.

METHOD

Istrumentation

In determining the applicability of the instruments and procedures of *CBAM* to bilingual education, two preliminary questions were addressed:

1. Is it reasonable to view bilingual education as an innovation?
2. If so, what attributes or characteristics of bilingual education distinguish it from other innovations?

Rogers and Shoemaker (1971) define the term *innovation* as an idea, practice, or object perceived as new by an individual.

Since it has only been a decade that bilingual education was instituted voluntarily on a large scale and even more recently mandated by several states, it seems reasonable to view bilingual education as an innovation in the public school systems of the United States. Of greater importance are the distinguishing characteristics of bilingual education. The following list of innovation dimensions and attributes was developed at a working session at the Conference on Research, Dissemination and Utilization held at The University of Texas at Austin on October 6, 1978:

- mandated or voluntary
- relative depth for user (demand on time, etc.)
- implementation costs--high or low (energy costs)
- scope of implementation: number of participants, grade levels, subjects, etc.
- single instructional subject or objectives versus multiple
- intact innovation versus a bundle or a composite
- whether target focus of implementation is predominantly instruction, organization, support, or environment
- materials-supported or not materials-supported
- proximity to classroom (building--district, state, federal)
- externally or internally produced
- prespecified or considerable latitude for development
- replicability and exportability
- degree of specific focus on pupil effects
- produce change within organization or organization itself changed
- stability (evolving versus fixed) over time

Four distinguishing characteristics of bilingual education are especially important:

1. It is a mandated as opposed to voluntary implemented innovation.
2. It comprises several quasi-independent innovations that are collectively referred to as an "innovation bundle."
3. It is wide in scope, involving a number of participants, grade levels, subjects, etc.
4. It is itself undergoing change, evolving over time as opposed to fixed.

The *CBAM* has been used to investigate a number of educational innovations such as team teaching, modules in teacher education, elementary science curricula, and Individually Guided Education (Hall and Loucks, 1977), all of which differ from bilingual education in one or more of the above attributes. However, it is possible to modify and supplement certain of the model's instruments and procedures so that it can be applied to the unique requirements of bilingual education.

The *CBAM* postulates two dimensions along which individuals grow as their familiarity with and use of an innovation increases; Stages of Concern About the Innovation (SoC) and Levels of Use of the Innovation (LoU). Two instruments were developed to assess where an individual stands in relation to an innovation's adoption: the SoC Questionnaire and the LoU Interview (see Appendix 1 and 2). The SoC Questionnaire measures the individual's level of concern about the innovation, which the LoU Interview focuses on behavioral aspects of the individual's involvement with a change. Both instruments are based on the *CBAM*, which assumes that the process of change is highly personal and lengthy, af-

fecting individuals differently; and that the only way to know for certain whether and how an innovation is being used is to assess the individual's concern for and use of the innovation.

Stages of Concern Questionnaire

A logical consequence of the *CBAM* is that an individual's concern with an innovation will differ according to the degree of closeness to and involvement with the innovation. Hall *et al.* (1977) identified seven stages of concern about the innovation (see Appendix 3) and demonstrated that movement through these stages is a developmental process in which earlier concerns must first be resolved (lowered in intensity) before later concerns emerge (increased in intensity). To provide a measure of Stages of Concern, Hall *et al.* developed a 35-item Stages of Concern Questionnaire validated over a three-year period. The SoC Questionnaire was used in cross-sectional and longitudinal studies of 11 different educational innovations and was tested for estimates of reliability, internal consistency, and validity. Based on the extensive and highly detailed psychometric data obtained from these studies, Hall *et al.*, concluded that the SoC Questionnaire accurately measures Stages of Concern about the innovation.

The SoC Questionnaire consists of three components: (1) an introductory page, (2) 35 test items, and (3) a demographic page. The SoC Questionnaire remains the same for different administrations, only the name of the innovation is changed on the introductory page. The purpose of the introductory page is threefold: (1) to present the purpose of the instrument, (2) to explain and

show through examples how to complete the instrument, and (3) to indicate which "innovation" the individual is to consider when responding. The next two pages of the questionnaire contain the 35 items to which the individual responds. The respondent marks each item on a 0-to-7 Likert scale according to the degree to which it is true that the item describes a felt concern. The third part of the questionnaire is the demographic page, developed to determine possible relationships between various demographic variables and the type of program being implemented, its degree of implementation, and the level of concerns of those involved. The information obtained on each teacher includes grade level taught, number of years at present school, number of years involved in bilingual education, proficiency in Spanish, Texas Educational Agency certification status, specialized training in bilingual education, and highest degree earned. The questionnaire can be issued by mail or in person and can be administered to a group or to an individual; it takes approximately 10 to 15 minutes to complete.

Levels of Use Interview

The *CBAM* postulates eight levels of use that individuals demonstrate as they move from non-use to highly sophisticated use of an innovation (see Appendix 4). To measure Levels of Use, the *CBAM* project staff developed a focused interview that involves a branching format with specific questions and follow-up probes (Loucks *et al.*, 1975). Data from change research and evaluation studies indicate that the eight different LoU's can be reliably measured using the "focused interview" technique (Hall and Loucks,

1977). Furthermore, the results of a study conducted by Hall and Loucks using an ethnographic methodology attest to the validity of the LoU Interview procedure.

The LoU Interview can be conducted by telephone or in person and follows a conversational format. Its length varies according to the talkativeness of the user and the degree of involvement with the innovation, but it typically takes approximately 20 minutes. The interview is conducted by a trained interviewer thoroughly familiar with the innovation. The interviewer probes for information related tc (1) the overall level of use; (2) the decision points that separate each level, and (3) categorical information that represents additional data points within a level. The interview is tape-recorded and later evaluated by trained raters.

Bilingual Classroom Questionnaire

An important characteristic of the LoU Interview is that it is not specific to any one innovation. However, to adapt the LoU Interview to the complex innovation of bilingual education, it was first necessary to specify the innovation's frame of reference, a process involving three interrelated steps:

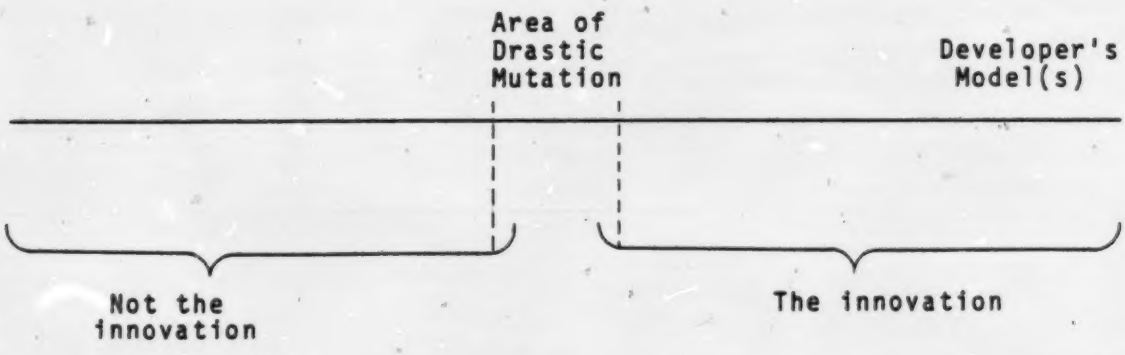
1. Develop a basic definition of bilingual education based on existing theoretical considerations.
2. Develop a procedure for identifying the different patterns of use ("configurations") of bilingual education.
3. Develop guidelines and/or distinguishing characteristics for what constitutes use of bilingual education.

Such information is necessary to make a "use/non-use" judgment at the first decision point in the branching LoU Interview.

The focus of much of our early work was the development of a procedure for determining the configurations of bilingual education implemented in the SEDL service area. For many innovations it is possible to identify key characteristics or components for which variations in the innovation can be observed. Specific innovation configurations are operationally defined in terms of variation in the selection and use of innovation components. Hall and Loucks (1978) describe a procedure for identifying configurations that involves determining the components and component variations that describe the innovation in use. The more components and variations within components, the greater the number of configurations. For innovations having a large number of components, such as bilingual education, it is necessary to select the "key" components to reduce the number of possible configurations to a manageable set of dominant patterns.

Hall and Loucks (1978) also discuss the notion of a "configuration continuum" illustrated in Figure 1 below:

Figure 1



At the far right of the continuum lies the developer's model. As additional variation in the original model is introduced, the resulting configurations approach the "Area of Drastic Mutation," the zone beyond which modified forms of the original innovation are no longer accepted as *the* innovation.

Applying the concepts of *innovation component* and *configuration continuum* to bilingual education, we have developed a continuum of 14 possible dual-language program structures, each defined in terms of variation on three major components:*

1. Percent of instruction time of language arts devoted to Spanish language arts (i.e., reading and writing in Spanish and Spanish oral language development).
2. Percent of instruction time of content areas other than language arts taught in Spanish (i.e., mathematics, science, social studies, music, etc.).
3. Grade levels at which such instruction is provided.

In sum, the three most important distinguishing instructional variables seem to be amount of instruction *of* the language, amount of instruction *in* the language, and the grade levels at which such instruction is included.

The type of possible dual-language program structures range from those in which very little Spanish is included in the curriculum to those in which both English and Spanish are used as the medium of instruction in all curricular domains. As shown in Figure 2, the continuum of program structures may be divided into three groups: (1) programs that do not satisfy minimum requirements to

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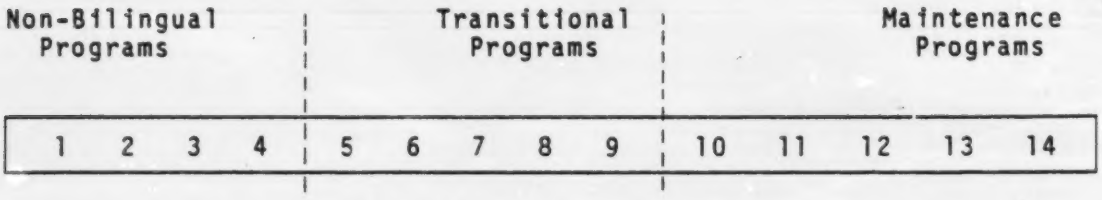
*Dr. Ernesto Zamora of the Texas Education Agency worked closely with the staff in developing the continuum and is largely responsible for providing definitions of the 14 program structures.

be classified as bilingual programs, (2) transitional programs, and (3) maintenance programs.

Figure 2



The division between non-bilingual programs (1-4) and the remaining two groups of programs (5-14) provides the basis for a definition that may be used in making the "use/non-use" distinction described earlier. It is also the analog to the Point of Drastic Mutation of configuration continuums.

Transitional programs are those in which Spanish is used in instruction solely to facilitate acquisition of English language skills. Instruction in Spanish is provided in decreasing amounts while instruction in English is increased up the grade levels until the whole curriculum is taught in English. The aim is to exit the child from this dual-language curriculum to a single-language curriculum (i.e., the English-only program). Maintenance programs also utilize both languages as vehicles for teaching; but unlike traditional programs, after instruction in Spanish is gradually decreased and English increased, instruction continues on a 50/50 basis at a predetermined point as the student moves up the grade levels. By maintaining and developing both languages throughout the educational program, the ultimate aim is for the student to become bilingual/bicultural with the capacity to think and function

in either language. The definitions of the 14 program structures are presented below:

Non-Bilingual Programs

1. English-Only Program (EOP).

2. EOP plus English-as-a-Second Language Program.

3. EOP plus foreign language (e.g., Spanish) in elementary school.

4. EOP plus non-English language (N-EL) used for giving instruction and clarification only.

Transitional Programs

5. Programs of this type develop understanding and speaking skills in both English and Spanish; reading and writing skills, however, are developed in English only. The academic subjects (e.g., math, science, social studies) are generally taught via the English language.

6. Programs of this type provide the English curriculum with a Spanish arts component (e.g., understanding, speaking, reading, and writing). No subject area instruction is provided in Spanish.

7. Programs of this type provide the English curriculum with selected (a portion of) subject areas taught via Spanish. No Spanish arts instruction is provided.

8. Programs of this type develop understanding, speaking, reading, and writing skills in both English and Spanish concurrently but in unequal amounts (time and treatment). English is used as the basic language of instruction, with the development of reading and writing skills in Spanish in cultural topics via social studies, literature, and art, while other subjects (e.g., math and science) are taught primarily in English.

9. Programs of this type develop understanding, speaking, reading, and writing skills in both English and Spanish concurrently but in unequal amounts (time and treatment) and use Spanish as the medium of instruction in some curricular domains (e.g., social studies, music, art) and some in English.

10. Programs of this type develop understanding, speaking, reading, and writing in both English and Spanish concurrently but in equal amounts (time and treatment) and use both languages as media for instruction in all curricular

domains (e.g., math, science, social studies).

Maintenance Programs

11-14. Maintenance programs develop understanding, speaking, reading, and writing skills in both English and Spanish concurrently and first in unequal, then equal amounts. Specifically, instruction in Spanish is gradually decreased as the English language is increased. At a predetermined point instruction continues on a 50/50 basis as the child moves up the grade levels. Both languages are used as media for instruction in a portion of or all of the curricular domains (i.e., math, science, social studies).

11. At the secondary level, the English curriculum is offered, in addition to a Spanish language arts component (e.g., the "Spanish S" program or Spanish for Spanish speakers; Spanish-as-a-Second Language for non-native speakers of Spanish).

12. At the secondary level, the English curriculum is offered, with some subject areas taught in Spanish (e.g., social studies), but in unequal amounts.

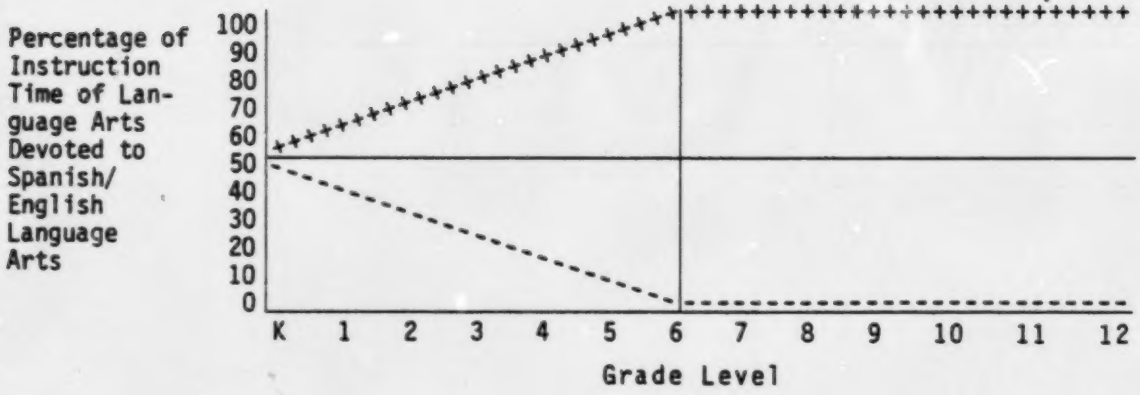
13. At the secondary level, the English curriculum is offered, with some subject areas taught in Spanish and some Spanish language arts instruction provided, but in unequal amounts.

14. At the secondary level, the skills of understanding, speaking, reading, and writing are developed in both English and Spanish and both languages are used as media of instruction in all curriculum domains. Both languages are used in equal (50/50) amounts.

It is possible to represent graphically the differences between the various program structures by plotting variations on the three major components described earlier. Consider the definitions for program structures 9 and 11, the former begin a transitional program and the latter a maintenance program. Assuming a sixth-grade transition point for both types of programs, the following sets of graphs (Figures 3 and 4) depict prototypical curriculum patterns for the two types of program structures.

Figure 3

CURRICULUM PATTERNS FOR PROGRAM STRUCTURE 9



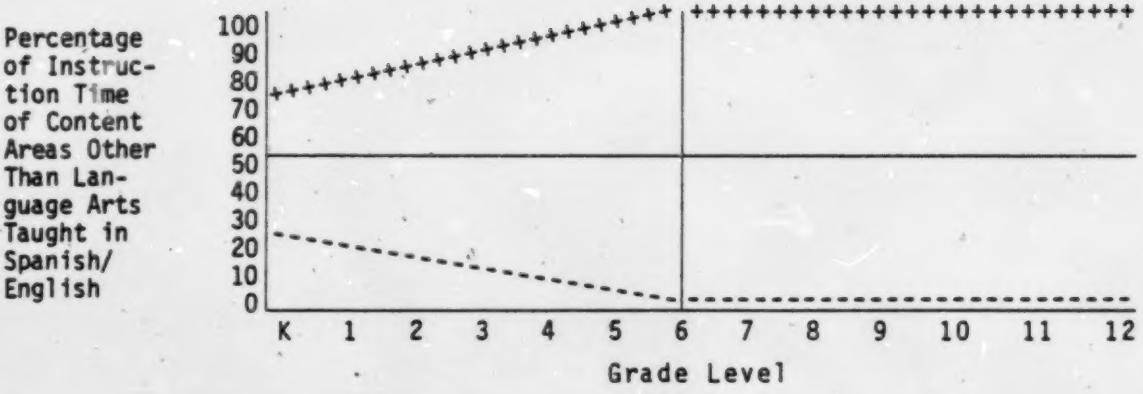


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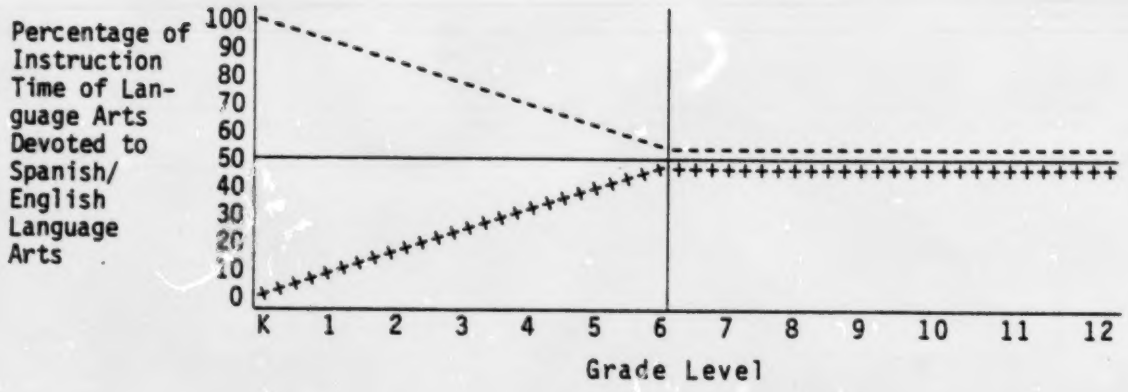
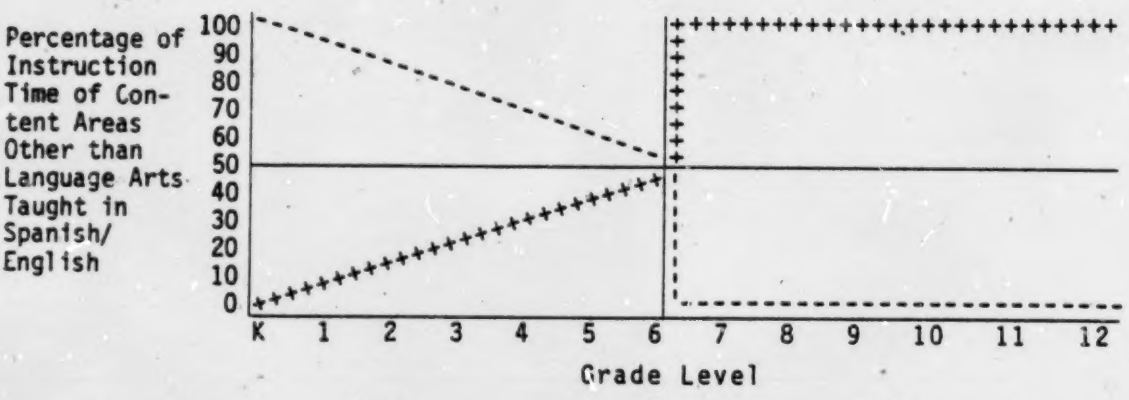
Figure 4

CURRICULUM PATTERNS FOR PROGRAM STRUCTURE 11





Key: Spanish ---
English +++

Once a set of variables or components that differentiate between program types was derived, a process was developed to gather data on configurations of bilingual education programs in the field. Ideally, the determination of program type would be based on extensive classroom observations and/or teacher interviews. In most cases, however, such an approach would greatly exceed the resources of the school district. The staff, therefore, decided to develop a questionnaire that would solicit the following kinds of information from each teacher involved in a bilingual education program:

1. What subject area and/or instructional activities are provided to the teacher's homeroom students throughout the day (concurrent activities are listed separately)?
2. For how long is the instruction provided, and what is the anticipated duration of the activities (e.g., two weeks, one day each week, all year long, etc.)?
3. What are the language classifications of the student or group of students within each instructional activity (balanced bilingual, monolingual English, monolingual Spanish, Spanish dominant, etc.)?
4. Who is the primary instructor of the activity (teacher, teacher aide, resource teacher)?
5. In what language is the activity conducted (including both language of instruction and language of materials)?

It was felt that a questionnaire requiring such information on each student in the classroom would be asking too much of the teacher's time. The staff, therefore, developed, pilot-tested, and refined the Bilingual Classroom Questionnaire (see Appendix 5), which essentially amounts to asking the teacher for her/his current and projected daily schedule of classroom activities. For each activity indicated, the teacher was asked to simply check off the lan-

guage categories of the students within each instructional activity, the primary instructor, the language of instruction, and the language of materials.

Originally it was hoped that a few questions at the beginning of the LoU Interview would be sufficient to determine the type of program being implemented, but with an innovation as complex as bilingual education, this is not possible. We therefore decided to ask the teachers to first complete the Bilingual Classroom Questionnaire. The data from the questionnaire were then analyzed, and if further information were needed, additional questions were presented at the beginning of the LoU Interview, conducted on a separate occasion.

It was anticipated that the *CBAM* instruments and the Bilingual Classroom Questionnaire would provide the basis for locating a given bilingual program (collapsing across* classrooms at the school and/or district level) along two conceptually independent dimensions, the *program* dimension and the *Levels of Use, Stages of Concerns* dimension, as shown in Figure 5. (Since Levels of Use and Stages of Concern are aspects of the same developmental process, congruency in the relationship between the two over a period of time can be noted if the adoption is progressing satisfactorily.)

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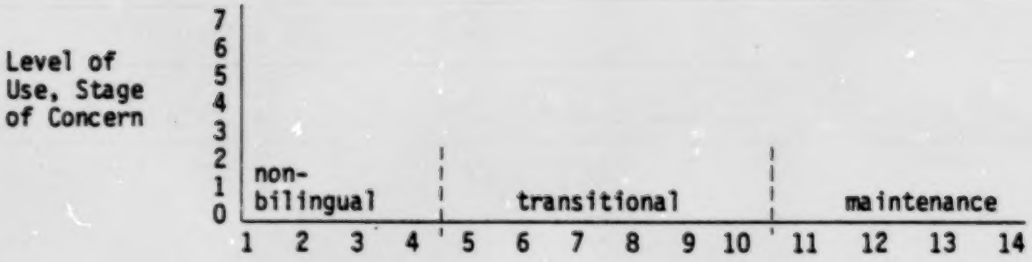
*Data from individual classrooms within a given school will be aggregated to yield an average school value on each of the variables of interest.

Figure 5

CONTINUUM OF DUAL-LANGUAGE PROGRAM STRUCTURES



Sites

Since a primary goal of our project was to develop a process that school districts could use to improve the effectiveness and productivity of their bilingual education programs, we felt it desirable to test the instruments and procedures in a wide variety of circumstances to insure broad applicability of our products and findings. We originally identified four operationally defined dichotomous variables that should be considered in site selection:

- Concentrations of Spanish surnames (high, low)
- Type of program (transitional, maintenance)
- Geographical setting (urban, rural)
- Length of time program has been in effect (old, new)

The four variables can be combined in 16 different ways ($2^4 = 16$), but we discovered that three of the variables--type of program, concentration of Spanish surnames, and length of time program has been in effect--are highly correlated, reducing the number of combinations to four. We therefore planned to conduct our study in four school districts--two of which were implementing maintenance

programs and the other two, transitional programs--with one of the maintenance programs located in a rural setting and the other in an urban setting, and likewise for the two transitional programs. Accordingly, four sites in Texas were secured:

- Site one--urban, maintenance
- Site two--urban, transitional
- Site three--rural, maintenance
- Site four--rural, transitional

The instruments and procedures were tested during the 1978-1979 school year, with the SoC Questionnaire administered first, the Bilingual Classroom Questionnaire second, and the LoU Interviews conducted last. The testing schedules for the four school districts were staggered somewhat in order that necessary modifications and refinement in the instruments and procedures could be completed prior to further testing in subsequent districts.

RESULTS AND DISCUSSION

SoC Questionnaire

The SoC Questionnaire was group administered to 100 elementary school teachers in site one, 110 teachers in site two, 22 in site three, and 11 in site four. In all but one site, the number represents all the teachers in the bilingual program. The data from the SoC Questionnaire were analyzed to determine teacher's concerns about the implementation of bilingual education programs in their district.

The data were scored using the guidelines included in the SoC Questionnaire Manual (Hall *et al.*, 1977). Each of the seven Stages

of Concern is allotted five statements on the questionnaire. The raw score for each stage is obtained by adding the response to those five statements. These scores are then converted into percentile scores by using the Stages of Concern Raw Score-Percentile Conversion Chart. Hall *et al.* (1977) describe a variety of data analysis procedures, but the most sensitive interpretation on concerns data is Profile Interpretation. By plotting individual or group mean percentile scores for each stage on a graph, it is possible to determine where the group or individual falls with respect to the hypothesized growth sequence of concerns.

A computer program developed by *CBAM* project personnel to score the SoC Questionnaire was implemented on the SEDL computer. The processing capabilities of the program enabled the staff to generate the following analyses for each site:

1. Overall group profile for participating teachers.
2. Group profiles by grade level.
3. Group profiles by amount of experience in bilingual education.
4. Group profiles by amount of experience within grade level (when n was of sufficient size).
5. Raw group data by grade, experience, and experience with grade level.
6. Raw data for individual teachers.

The overall group profiles for the four sites indicate that the teachers from the urban sites have particularly intense Stage 1 and Stage 2 concerns, often occurring together. A high score on Stage 1 indicates that teachers want more information about bilingual education, while a high Stage 2 indicates they have intense

personal concerns about bilingual education and its consequences for them. These concerns reflect uneasiness regarding the bilingual education program, but do not necessarily indicate resistance. The teachers of the rural sites generally exhibited lower concerns, with the exception of high Consequence and Collaboration concerns (Stages 4 and 5) exhibited by the teachers of one of the rural sites. This would indicate an advanced stage of implementation in that the teachers are more concerned about the impact the innovation is having on their students than about the consequences for themselves.

Two findings from our study resulted in modifications and additions to the SoC Questionnaire. One concerns some minor changes in the instrument itself. The SoC Questionnaire was first administered to 100 teachers in site one. The teachers indicated that some of the words in the test items--namely, "innovation," "method," and "approach"--were too vague and suggested they be replaced with the phrase "bilingual education." After consulting with members of the *CBAM* project staff, it was agreed that "innovation" and similar words could be replaced with "bilingual education" without adversely affecting the validity of the questionnaire. The revised questionnaire was administered to 11 teachers in site four. The favorable feedback received from the teachers suggests that replacing the word "innovation" with "bilingual education" increases the clarity of the test items.

A substantial number of teachers also indicated confusion over the wording of the following items:

> I would like to know what resources are available *if we decide* to adopt bilingual education.

I would like to determine how to supplement, enhance, or *replace* bilingual education.

I would like to know how bilingual education is better than *what we have now*.

Much of the confusion appears to stem from the fact that bilingual education is, for the most part, a legislatively mandated innovation. For this reason it does not make much sense to talk in terms of what resources are available "if we decide" to adopt bilingual education, how one might "replace" bilingual education, or how bilingual education is better than "what we have now." Although the instructions to the questionnaire indicate that the respondent should circle "0" for items that seem irrelevant, it was felt that leaving the items in their present form might result in a loss of valuable information and adversely affect the instrument's psychometric qualities. The following minor changes in wording are therefore suggested:

I would like to know what resources are available for bilingual education.

I would like to determine how to supplement, enhance, or modify bilingual education.

I would like to know how bilingual education is better than what we had in the past.

An analysis of the data obtained with the SoC Questionnaire resulted in an important addition to the instrument. Although in each site the group profiles for the different grade levels are similar, reflecting the overall pattern, the group profiles for varying amounts of experience reflect a different pattern. The data indicate that the group profiles of the inexperienced teachers in our larger sites closely approximate the prototypical profiles of

new innovation users, but the profiles of the more experienced groups tend to deviate from the prototypical profiles of the more experienced users. Specifically, the more experienced teachers exhibited higher level concerns (as expected), but also continued to exhibit low level concerns (especially informational concerns).

This pattern is probably due to the highly complex nature of bilingual education, which consists of several individual innovations (collectively referred to as an "innovation bundle," that cannot be implemented all at once. (Examples include Spanish reading, English as a Second Language, culture, Spanish mathematics, grouping by language classification, etc.). Because bilingual education is a wide-ranging innovation, many districts begin with low level transitional programs that eventually evolve into more advanced programs as better trained staff, more materials, etc., become available. In addition to being phased in gradually, the innovation itself is undergoing change as a result of modification in legal guidelines and the reporting of recent research on bilingual education (much of which was initiated *after* bilingual education was legally mandated). Since the innovation is continually undergoing change, it is not surprising that more experienced users continue to exhibit high informational concerns. The high personal concerns exhibited by experienced teachers probably reflects another feature of bilingual education; namely, that its implementation requires a highly coordinated effort across classrooms and grade levels, a responsibility that all too often rests in the hands of a disinterested or untrained principal who opposes the implementation of bilingual education.

An item analysis of the data and discussion with teachers having differing amounts of classroom experience suggest that even though more experienced teachers continue to exhibit high informational concerns, the type of information sought differs from that of less experienced teachers. More experienced teachers tend to seek information on the implications of recent changes in the innovation, whereas the informational needs of those less experienced are more general.

In its present form the SoC Questionnaire is not sensitive to the different informational needs of bilingual education teachers nor can it capture the depth and variety of such needs that stem from the complexity and scope of the innovation. The Professional Development Questionnaire (PDQ) was, therefore, developed as a supplement to the SoC Questionnaire to provide more detailed data on the specified informational needs of bilingual teachers. The PDQ consists of 62 items drawn from published competency lists based on the opinions of experts and on research studies available in the literature on bilingual education and teacher effectiveness.

The PDQ was administered to the teachers of three sites. The analysis of the PDQ data consisted of three activities:

1. Compiling the highest priority items for each teacher; i.e., obtaining a listing of the items for which the greatest need was indicated.

2. Rank ordering of highest priority items for different groupings; i.e., overall, by amount of experience, by grade level, and by school.

3. Performing a cluster analysis of high priority items for each group.

This procedure provided for several options in the development of staff development activities, since the data were organized and examined in a variety of ways. An improvement in the PDQ would be to have the teacher indicate at the end of the questionnaire the high priority items (say three or four) on which she/he desires immediate help. There were numerous instances in which teachers marked ten or more items for which help was sought "to a great extent."

Bilingual Classroom Questionnaire

Our field work with the Bilingual Classroom Questionnaire (BCQ) indicates that a moderate amount of "front end" work needs to accompany the administration of the instrument to insure overall quality of the data. Specifically, teachers need to be encouraged to use generic descriptions of instructional activities rather than textbook titles, developer's, or publisher's names. Also, since the language categories of the students within instructional groups play a major role in determining the type of program being implemented, care must be taken to insure that teachers understand the set of language category definitions used in the questionnaire.

To handle the data from the BCQ two computer programs were written, one for cleaning the data (the BCQERR) and the other for processing the data themselves (the BCQTAB). An overview of the system for coding, cleaning, scoring, and analyzing the data from the BCQ is presented in Table 1. The coding instructions for the BCQ, the deck structures for the BCQERR and BCQTAB programs, and the BCQERR and BCQTAB programs themselves are included in the proj-

Table 1

Step 1: Front End Work

Provide rationale for completing instrument. Carefully go over instructions with teachers. Work through some examples. Answer questions.

↓

Step 2: Administer Questionnaire

Have teachers bring classroom schedules and complete questionnaire in presence of administrator in case questions arise.

↓

Step 3: Data Cleaning and Coding

Check questionnaire over for common errors and correct, if possible. Transfer information to coding sheets according to procedures specified in coding booklet.

↓

Step 4: Key Punch Data, Run Error Program (BCQERR)

If output from error program indicates the presence of errors in coded input, read diagnostic information and make necessary changes.

↓

Step 5: Run Main Program (BCQTAB) on Corrected Input

Program output includes (1) information pertaining to each type of instructional activity occurring in classroom; (2) individual teacher summaries for language arts, major content areas, and minor content areas; and (3) summary information collapsed across groups of teachers.

↓

Step 6: Data Analysis

The control cards for the program provide for various options selected according to whether the primary focus or unit of analysis is the classroom, school, or district. To determine program type, plot values corresponding to key distinguishing variables and compare resulting pattern with prototypical patterns.

ect's Final Report to NIE (Domínguez and Tunmer, 1979).

The purpose of the BCQTAB program is to generate the necessary descriptive information to determine the configurations of existing bilingual education programs. As noted earlier, the key distinguishing *instructional* variables of bilingual education programs seem to be:

1. Percentage of instruction time of language arts devoted to Spanish language arts.
2. Percentage of instruction time of content areas other than language arts which is taught in Spanish (this should be broken down into *minor* and *major* areas).
3. Grade levels at which such instruction is provided.

In order to analyze the data from the BCQ in terms of these components, certain assumptions and concepts are incorporated into the computer program developed to process the data. Specifically, since language group autonomy cannot be assumed (monolingual Spanish-speaking children, for example, may appear in more than one instructional activity but may or may not be the *same* monolingual Spanish children), the program calculates the total amount of time devoted to each type of instructional activity (some of which may be concurrent activities). The percentage of time in which one or more children of a given language type participate in an instructional activity (e.g., reading) is then calculated for each language group (this is called the "participation percent"). The total amount of time one or more children of a language group participate in language arts activities is divided into two parts, the proportion devoted to Spanish language arts and that devoted to English language arts. A similar procedure is

used with the major and minor content areas. This information is then collapsed across teachers at each grade level to determine the type of program being implemented. Provided that computer facilities are available, a system like the one described above is especially useful in large metropolitan school districts where the resources and staff of those involved in administering bilingual education programs are typically limited.

The first page of the printed output provides the general definitions and abbreviations used in the analysis of the BCQ data. The next section contains information on each teacher who completed the BCQ; specifically, information pertaining to each type of instructional activity occurring in her/his classroom and individual teacher summaries for the language arts and major and minor content areas. The total time allotment indicated for an activity type may result from adding the amount of time associated with activities of the same type that take place concurrently, as when the teacher has an aide or resource teacher in the classroom. Therefore, it is possible for the sum of the time allotments to exceed the instructional day.

For each type of instructional activity, the time and percentage breakdowns are provided for the primary instructor(s) of the activity, language of instruction, language of materials, and language classifications of the children participating. Following the information on each type of instructional activity are individual teacher summaries for the language arts, major and minor content areas, and all content areas combined. The last section of the output contains summary information collapsed across groups of

teachers.

The average participation percentages for the language arts and content areas at various grade levels for Limited English Proficient (LEP) children participating in the bilingual programs of the two urban sites is presented in Table 2 (the data were generated by the BCQTAB program).

Table 2

URBAN SITE #1

		Language Arts		Content Areas	
Grade	n	Spanish %	English %	Spanish %	English %
K	7	34	66	54	46
1	10	33	67	48	52
2	11	22	78	39	60
3	6	16	84	20	80
4,5	5	7	92	10	89

URBAN SITE #2

		Language Arts		Content Areas	
Grade	n	Spanish %	English %	Spanish %	English %
K	10	37	62	42	57
1	18	76	23	28	71
2	5	73	26	17	82
3	6	23	76	10	89
4	5	27	72	3	96
5	5	21	79	1	99

These values may be plotted on a graph and compared to the prototypical patterns associated with different program types. The plot for the content areas may be broken down into major and minor content areas, an important distinction when one wants to know whether instruction in Spanish is provided in math, science, and social studies, as opposed to Spanish instruction in art, music, and physical education. The LEP children comprise three language groups--bilingual, Spanish dominant, and monolingual Spanish children; separate pairs of plots for each of these language groups can also be generated if needed.

An overall transitional program is clearly indicated for the two sites (one of which was originally thought to be a maintenance program), but examination of the data on individual classrooms reveals considerable variability. For example, the instructional patterns of some classrooms were more consistent with a "maintenance" philosophy, whereas the patterns of others essentially amounted to ESL programs with no Spanish language arts or content area instruction in Spanish, in which case the needs of the LEP children were not being met. One should, therefore, not rely solely on the summary information provided by the computer program, but should carefully examine each teacher's individual output to obtain as accurate a picture as possible.

LoU Questionnaire

Levels of Use (LoU) Interviews were conducted at three of the four sites. All of the elementary level bilingual education teachers at sites three and four were interviewed as well as a

sample of teachers from site two. Since bilingual education consists of several quasi-independent innovations (collectively referred to as an "innovation bundle"), it was necessary to develop configuration questions and conduct interviews for each innovation of interest. For example, in a bilingual education program that has four different innovations (e.g., English as a Second Language, Spanish reading, Spanish mathematics, and Culture), one must develop questions to arrive at the particular pattern of use associated with each innovation. An important reason for developing configuration questions is to enable the interviewer to obtain the information necessary to make the "use/non-use" decision in the branching-question format of the LoU Interview.

Since the same LoU questions are asked for each innovation, it is necessary to cycle through the same set of questions several times. The staff, therefore, streamlined the LoU questions as much as possible. Five members of the staff conducted the LoU Interviews, which generally took 30 minutes to an hour to complete. Each member was trained by *CBAM* project personnel and received certification upon completion of practice interviews and ratings (the latter was done to establish interrater reliability).

A rating sheet is used to help the LoU rater process information gathered from a taped LoU Interview. The purpose of the rating procedure is twofold: (1) to place the innovation user at a LoU for each of the seven categories, which represent the key functions in an innovation; and (2) to assign an overall LoU to the innovation user. Concerning the former, it is important to measure LoU's for each category independently because people who

exhibit *different* "profiles" across the categories may have been assigned the *same* overall LoU. In such cases, wholly different interventions may be required. For example, an individual with a high level of knowledge about an innovation would not require the same information as one with Level 0 knowledge, even though their overall LoU's may be the same.

The distribution of Levels of Use across different innovations for two of our sites are presented in Table 3 (for the urban site, only ESL and Spanish Reading LoU's were determined).

Table 3

RURAL SITE

Levels of Use	ESL	Spanish Reading	Spanish Math	Culture
0	3	3	5	8
I	0	0	1	1
II	0	1	0	0
III	7	1	0	0
IVA	4	10	6	4
IVB	1	1	1	0
V	0	0	0	0
VI	0	0	0	0

Table 3 (continued)

URBAN SITE

		ESL	Spanish Reading
	0	5	8
	I	1	1
Levels	II	0	0
of	III	1	0
Use	IVA	8	5
	IVB	3	3
	V	0	0
	VI	0	0

The data reveal that almost half of the teachers at the rural site were at the mechanical level of use (Level III) with respect to ESL. This reflects the reality of the situation, as a new ESL program was being implemented the year the interviews were conducted. For Spanish reading, over two-thirds of the teachers were at the Routine Level or above, but the situation was not as good for Spanish Math and Culture. This is not especially surprising, since language arts are normally given greater emphasis in the earlier stages of the implementation of bilingual education programs. For the urban site the situation was reversed, in that the teachers we interviewed seemed to be operating at higher levels of use with respect to ESL compared to Spanish reading. In both sites the students of some of the *non-users* of ESL and/or Spanish reading were taught by a team teacher or resource teacher; thus, the picture is not quite so bad as it appears. Also, a sub-

stantial number of non-users (about half) were past users of the innovation in question.

SUMMARY AND CONCLUSIONS

The study explored one approach to designing diagnostic/prescriptive staff development programs for bilingual education. In this approach bilingual education is viewed as an innovation in the process of change, with staff development an integral component of that innovation. Our work with the *Concerns-Based Adoption Model (CBAM)* indicates that, with certain modifications and additions to its instruments and procedures, the model can be applied to the unique requirements of bilingual education.

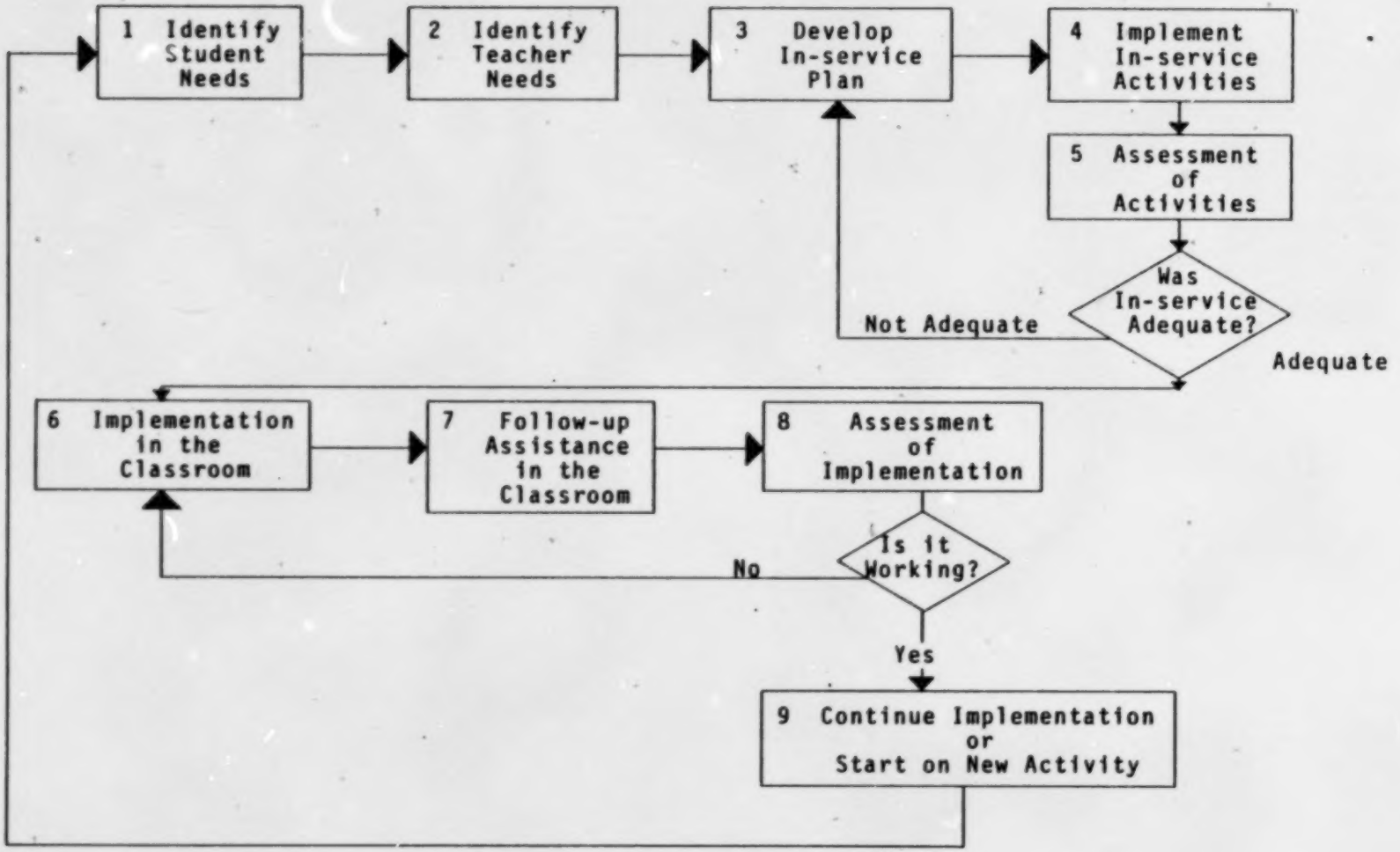
Figure 6 illustrates the manner in which the staff has conceptualized the in-service education process. The focus of our effort has been on boxes two and three--identifying teacher needs and developing an in-service plan based on these needs. Four pieces of information seem to us to be crucial in the development of a successful in-service program:

1. What concerns do the teachers have about the implementation of bilingual education?
2. What are the needs of the teacher in terms of knowledge and skills?
3. What are the teachers doing in the classroom, i.e., what are the instructional components of the bilingual programs being implemented?
4. What levels of use have the programs in the process of implementation reached?

The instruments developed or adapted to obtain the information sought by each of these four questions are:

Figure 6

IN-SERVICE EDUCATION PROCESS



- Stages of Concern Questionnaire
- Professional Development Questionnaire
- Bilingual Classroom Questionnaire
- Levels of Use Interview

Based on the research conducted, the staff concludes that such a system of instruments and procedures can provide the adoption agent (the school or district) with diagnostic information on which to build prescriptive interventions for each user in the system. Implementing intervention strategies that are appropriate, timely, and meet the needs of individual users will reduce the time for completing the process of innovation adoption and, in certain cases, prevent the adoption process from being aborted.

While the primary focus of this study has been on staff development, this methodology and results also have direct implications for bilingual program evaluation. Most studies are impact or summative evaluations of bilingual programs that have largely ignored the "degree of implementation" variable. Researchers have generally not been able to accurately assess the type of programs being implemented nor the stage which a program has reached in the implementation process.

The methodology and results described above thus provide a promising approach for defining bilingual programs-in-progress, which in turn may allow researchers to tie implementation variables to student outcomes. For example, evaluators who know the amount of time spent in English/Spanish instruction and the level

of use for each instructional component of a program (ESL, Spanish reading, Spanish math, etc.) may then examine the relationship between these variables and the outcome measures logically related to each instructional component. Thus, time spent in Spanish reading instruction and the level of use of this component may be tied to Spanish reading achievement; time spent in ESL instruction and the level of use of this component may be tied to English oral language proficiency, etc. for each of the instructional components in a particular bilingual program.

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APPENDIX 1

CONCERNS QUESTIONNAIRE*

Name_____

Date Completed_____

It is very important for continuity in processing these data that we have a unique number you can remember. Please use:

Last four digits SS# ___ ___ ___ ___

The purpose of this questionnaire is to determine the concerns of people involved in the bilingual education adoption process. The items were developed from typical responses of school and college teachers who ranged from no knowledge at all about various programs of instruction to many years of experience with them. Therefore, *a good part of the items may appear to be of little relevance or irrelevant to you at this time.* For the completely irrelevant items, please circle "0" on the scale. Other items will represent those concerns you *do* have, in varying degrees of intensity, and should be marked higher on the scale according to the explanation given on the questionnaire.

For example:

0 1 2 3 4 5 6 (7)	This statement is very true of me at this time.
0 1 2 3 (4) 5 6 7	This statement is somewhat true of me now.

*Procedures for Adopting Educational Innovations/*CBAN* Project, Research and Development Center for Teacher Education, The University of Texas at Austin. © 1974.

APPENDIX 1 (continued)

0 (1) 2 3 4 5 6 7 This statement is not at all true of me at this time.

(0) 1 2 3 4 5 6 7 This statement seems irrelevant to me.

Please respond to the items in terms of *your present concerns*, or how you feel about your involvement or potential involvement with *bilingual education*. We do not hold to any one definition of bilingual education, so please think of it in terms of *your own perceptions* of what it involves.

APPENDIX 1 (continued)

Scale:

0 1 2 3 4 5 6 7
Not true of me now — Somewhat true of me now — Very true of me now

1.	I am concerned about students' attitudes toward bilingual education.	0	1	2	3	4	5	6	7
2.	I now know of some other bilingual education programs that might work better.	0	1	2	3	4	5	6	7
3.	I don't even know what bilingual education is.	0	1	2	3	4	5	6	7
4.	I am concerned about not having enough time to organize myself each day.	0	1	2	3	4	5	6	7
5.	I would like to help other faculty in their use of bilingual education.	0	1	2	3	4	5	6	7
6.	I have a very limited knowledge about bilingual education.	0	1	2	3	4	5	6	7
7.	I would like to know the effect of re-organization on my professional status.	0	1	2	3	4	5	6	7
8.	I am concerned about conflict between my interests and my responsibilities.	0	1	2	3	4	5	6	7
9.	I am concerned about revising my use of bilingual education.	0	1	2	3	4	5	6	7
10.	I would like to develop working relationships with both our faculty and outside faculty using bilingual education.	0	1	2	3	4	5	6	7
11.	I am concerned about how bilingual education affects students.	0	1	2	3	4	5	6	7
12.	I am not concerned about bilingual education.	0	1	2	3	4	5	6	7
13.	I would like to know who will make the decisions regarding bilingual education.	0	1	2	3	4	5	6	7
14.	I would like to discuss the possibility of using bilingual education.	0	1	2	3	4	5	6	7

APPENDIX 1 (continued)

15.	I would like to know what resources are available if we decide to adopt bilingual education.	0 1 2 3 4 5 6 7
16.	I am concerned about my inability to manage all that bilingual education requires.	0 1 2 3 4 5 6 7
17.	I would like to know how my teaching or administration is supposed to change.	0 1 2 3 4 5 6 7
18.	I would like to familiarize other departments or persons with the progress of bilingual education.	0 1 2 3 4 5 6 7
19.	I am concerned about evaluating my impact on students.	0 1 2 3 4 5 6 7
20.	I would like to revise bilingual education's instructional approach.	0 1 2 3 4 5 6 7
21.	I am completely occupied with other things.	0 1 2 3 4 5 6 7
22.	I would like to modify our use of bilingual education based on the experiences of our students.	0 1 2 3 4 5 6 7
23.	Although I don't know about bilingual education, I am concerned about things in the area.	0 1 2 3 4 5 6 7
24.	I would like to excite my students about their part in bilingual education.	0 1 2 3 4 5 6 7
25.	I am concerned about time spent working with non-academic problems related to bilingual education.	0 1 2 3 4 5 6 7
26.	I would like to know what the use of bilingual education will require in the immediate future.	0 1 2 3 4 5 6 7
27.	I would like to coordinate my effort with others to maximize bilingual education's effects.	0 1 2 3 4 5 6 7
28.	I would like to have more information on time and energy commitments required by bilingual education.	0 1 2 3 4 5 6 7
29.	I would like to know what other faculty are doing in the area of bilingual education.	0 1 2 3 4 5 6 7

APPENDIX 1 (continued)

30.	At this time I am not interested in learning about bilingual education.	0 1 2 3 4 5 6 7
31.	I would like to determine how to supplement, enhance, or replace bilingual education.	0 1 2 3 4 5 6 7
32.	I would like to use feedback from students to change bilingual education.	0 1 2 3 4 5 6 7
33.	I would like to know how my role will change when I am using bilingual education.	0 1 2 3 4 5 6 7
34.	Coordination of tasks and people is taking too much of my time.	0 1 2 3 4 5 6 7
35.	I would like to know how bilingual education is better than what we have now.	0 1 2 3 4 5 6 7

PLEASE COMPLETE THE FOLLOWING:

1. School District _____

2. School Name _____

3. Teacher Name _____

4. Grade(s) you currently teach: (check one or more)

   K____ 1____ 2____ 3____ 4____ 5____ Other (specify)____

5. Number of years at present school_____

6. Check title of your job at present school: Teacher____

   Aide____ Specialist____ Other (Specify)____

7. How long have you been teaching in a bilingual classroom, not counting this year?

   never____ 1 year____ 2 years____ 3 years____ 4 years____

   5 years or more____

8. In your use of bilingual education, do you consider yourself to be a:

   non-user____ novice____ intermediate____ old hand____

   past user____

APPENDIX 1 (continued)

9. Proficiency in Spanish: excellent____ fair____ poor____

10. What is your Texas Education Agency certification status? (check one)

____State Certified Teacher with Bilingual Endorsement

____State Certified Teacher with Special Assignment Permit

____State Certified Teacher with *No* Bilingual Endorsement or Special Assignment Permit

____Currently teaching on an Emergency Certificate

____Other (specify)_____

11. Have you received specialized training in bilingual education?

Yes____ No____

If yes, what type of training did you receive? (check one or more)

____college course(s) ____district sponsored workshop(s)

____TEA/Service Center 30-Hour Institute

____Other training (specify type and length)_____

12. Highest degree earned: Associate____ Bachelor____

Masters____ Doctorate____

13. Year degree earned_____

APPENDIX 2

LoU INTERVIEW

Introduction

1. Chit-Chat--weather, etc.
2. Why and what the study is all about.
3. Trying to find out about your use of bilingual education.
4. Purpose is to design a staff development program.
5. I'd like to thank you for giving me the opportunity to ask you some questions about your teaching.
6. Re: Something about the recorder.
7. Focus Interview--set of questions.

NON-USER

Have you ever taught_____in the past? If so, when? Why did you stop?

If Yes:

Can you describe for me how you organized your use of

_____?

What problems you found?

What effects it appeared to have on students?

When you assess_____at this point in time, what do you see as the strengths and weaknesses?

Acquiring Information:

Are you currently looking for any information about_____?

What kinds?

For what purposes?

APPENDIX 2 (continued)

O/I-II

Have you made a decision to use_____ in the future?

I/II

If so, when will you begin use?

CONFIGURATION HUNT

Spanish Reading

Are you currently teaching Spanish reading?

(If NO--Ask NON-USER questions.)

If YES--Ask the following:

Please describe the structure of the Spanish reading program in your classroom.

If needed, ask the following questions to search out minimum criteria:

1. What materials do you use? Are you using the Spanish version?
2. Who is it taught to? (language classification of students)
3. How much time is spent in Spanish reading each day/week?
4. Is there a period specified in the Daily Schedule?

ESL

1. Do you have children in your class of limited English-proficiency?
2. Do you do anything different in oral English development for these children that you would not normally do for monolingual English-speaking children of the same age? If YES--proceed; If NO--go to NON-USER.
3. Do you do this consistently?
4. Is this something you do frequently? (daily? amount of time?)

APPENDIX 2 (continued)

Content Areas

1. Now let's talk about the content areas. Is there any content area (math, science, social studies) in which you teach the *concepts* first in Spanish?

   If YES--proceed; If NO--go to NON-USER.

2. Single out the area, or one of the areas mentioned, and ask, "Do you do this consistently?"

3. Is this something you do frequently? (daily? amount of time?)

Minor Content Areas: Proceed as in Content Areas above.

Culture

1. Tell me about any kinds of things that you do that might fall in the area of Culture in the Classroom.

2. To whom is this taught? (language classification of the students)

3. Do you do this consistently?

4. Is this something you do frequently? (daily? amount of time?)

USER

Assessing/Knowledge

What do you see as the strengths and weaknesses of your own program of _____?

Have you made any attempt to do anything about weaknesses? (Probe those they mentioned specifically.)

Acquiring Information

Are you currently looking for any information about _____?

What kind?

For what purposes?

APPENDIX 2 (continued)

LoU V

Do you work with other people in your use of_____?

Have you made any changes in your use of_____based on this joint effort?

If Yes:

1. How do you work together?

2. How often?

3. What do you see as the effects of this collaboration?

4. Are you looking for any particular kind of information in relation to this collaboration?

5. Do you talk with others about your joint effort? (collaboration) If so, what do you share with them?

6. Have you assessed, either formally or informally, how your collaboration is working?

7. What plans do you have for working together in the future?

   If YES, ask next question: if NO, proceed to sharing.

8. Are you considering or planning to make major modifications or replace_____at this time?

Sharing

Do you ever talk with others about_____?

Assessing

(Have you considered any alternatives or different ways of doing things with_____?)

Are you doing any evaluating, either formally or informally, that would affect your use of_____?

Have you received any feedback from students that would affect the way you're teaching_____?

What have you done with the information that you receive?

APPENDIX 2 (continued)

III/IVA/IVB

Have you made any changes recently in how you use_____?

What?

Why?

How recently?

II/IVA/IVB

Are you considering making any (other) changes?

Planning/Status Reporting

In looking ahead to later this year, what plans do you have in relation to your use of_____?

III-V/VI

Are you considering or planning to make major modifications or replace_____at this time?

APPENDIX 3

STAGES OF CONCERN ABOUT THE INNOVATION[1,2]

0	*AWARENESS:*	Little concern about or involvement with the innovation is indicated.
1	*INFORMATIONAL:*	A general awareness of the innovation and interest in learning more detail about it is indicated. The person seems to be unworried about herself/himself in relation to the innovation. She/he is interested in substantive aspects of the innovation in a selfless manner such as general characteristics, effects, and requirements for use.
2	*PERSONAL:*	Individual is uncertain about the demands of the innovation, her/his inadequacy to meet those demands, and her/his role with the innovation. This includes analysis of her/his role in relation to the reward structure of the organization, decision making, and consideration of potential conflicts with existing structures or personal commitment. Financial or status implications of the program for self and colleagues may also be reflected.
3	*MANAGEMENT:*	Attention is focused on the processes and tasks of using the innovation and the best use of information and resources. Issues related to efficiency, organizing, managing, scheduling, and time demands are utmost.

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[1] Reprinted from Hall, Gene E., George, A. A., and Rutherford, W. L. *Measuring Stages of Concern About the Innovation: A Manual for Use of the SoC Questionnaire*. Austin: Research and Development Center for Teacher Education, The University of Texas at Austin, 1977.

[2] Original concept from Hall, G. E., Wallace, R. C., Jr., and Dossett, W. A. *A developmental conceptualization of the adoption process within educational institutions*. Austin: Research and Development Center for Teacher Education, The University of Texas at Austin, 1973.

APPENDIX 3 (continued)

4 *CONSEQUENCE:* Attention focuses on impact of the innovation on students in her/his immediate sphere of influence. The focus is on relevance of the innovation for students; evaluation of student outcomes, including performance and competencies; and changes needed to increase student outcomes.

5 *COLLABORATION:* The focus is on coordination and cooperation with others regarding use of the innovation.

6 *REFOCUSING:* The focus is on exploration of more universal benefits from the innovation, including the possibility of major changes or replacement with a more powerful alternative. Individual has definite ideas about alternatives to the proposed or existing form of the innovation.

APPENDIX 4

LEVELS OF USE*

Scale Point Definitions of the Levels of Use of the Innovati

0	*NON-USE:*	State in which the user has little or no knowledge of the innovation, no involveme with the innovation, and is doing nothing ward becoming involved.
1	*ORIENTATION:*	State in which the user has acquired or is acquiring information about the innovatio or has explored or is exploring its value orientation and its demands upon user and system.
2	*PREPARATION:*	State in which the user is preparing for use of the innovati n.
3	*MECHANICAL USE:*	State in which the user focuses most effo the short-term, day-to-day use of the inn tion with little time for reflection. Ch in use are made more to meet user needs t client needs. The user is primarily engag in a stepwise attempt to master the tasks required to use the innovation, often res in disjointed and superficial use.
4-A	*ROUTINE:*	Use of the innovation is stabilized. Few any changes are being made in ongoing use. tle preparation or thought is being given improving innovation use or its consequen
4-B	*REFINEMENT:*	State in which the user varies the use of innovation to increase the impact on cli within immediate sphere of influence. Va tions are based on knowledge of both shor and long-term consequences for clients.
5	*INTEGRATION:*	State in which the user is combining own orts to use the innovation with related activi of colleagues to achieve a collective imp clients within their common sphere of inf

*"Procedures for Adopting Educational Innovations Project," Research and Development Center for Teacher Education, The U versity of Texas at Austin, 1975, NIE Contract No. NIE-C-74-

APPENDIX 4 (continued)

6 *RENEWAL:* State in which the user re-evaluates the quality of use of the innovation, seeks major modifications of or alternatives to present innovation to achieve increased impact on clients, examines new developments in the field, and explores new goals for self and the system.

APPENDIX 5

BILINGUAL CLASSROOM QUESTIONNAIRE*

Teacher Name_____ Grade Level(s)_____

School_____ Date Completed_____

INSTRUCTIONS

The Bilingual Classroom Questionnaire will be used to describe instructional practices in bilingual classrooms. The Questionnaire is part of a project designed to provide educators with procedures for describing the type of bilingual education in their schools and to identify staff development needs for applying bilingual education successfully.

The Questionnaire will take about 30 minutes to complete. Information is requested in six columns. The example provided below shows how to complete columns one through three. The discussion that follows describes procedures for completing columns one through three and adds information on columns four through six.

In column one, Current Daily Schedule, list in time sequence the daily activities of the students in your classroom. If more than one activity occurs during a given time period, list each of the concurrent activities separately. For example, suppose that

*The responses from this questionnarie will be used to design in-service education for teachers and will not be used to evaluate teacher knowledge, skills, or attitudes.

APPENDIX 5 (continued)

from 8:00 to 8:30 one group of students receives Spanish reading instruction while another group receives English oral language development. Each activity would be listed separately, as shown in the example.

1		2		3					
CURRENT DAILY SCHEDULE		ANTICIPATED DURATION		LANGUAGE CATEGORIES					
(of your homeroom students)		Continuous (All Year Long)	Non-continuous (Please indicate--e.g., 1 day each week; every other week, 2 weeks out of every 4, etc.)	(of students within instructional groups)					
Hours	Activity			BB	BE	BS	ME	MS	LL
8:00-8:30	Spanish Reading	✓				✓		✓	
	English Oral Language Development	✓		✓	✓				
8:30-9:00	Science		2 weeks out of every 4	✓		✓			
8:30-9:00	Social Studies		2 weeks out of every 4	✓		✓			
9:00-9:30	P. E.		4 days each week	✓	✓	✓	✓	✓	
9:00-9:30	Art		1 day each week		✓	✓	✓	✓	

In column two, Anticipated Duration, indicate whether the scheduled activity occurs throughout the year (continuous) (✓) or on a more limited basis (non-continuous) (e.g., one day each week, two weeks out of every four, etc.). If different activities are scheduled during the same period but on a rotating basis, list

APPENDIX 5 (continued)

all the activities as shown in the example above (e.g., from 8:30-9:00 Science is taught for two weeks with Social Studies being taught the following two weeks before the cycle repeats itself; from 9:00-9:30 P.E. is taught for four days each week while Art is taught on the remaining day).

The Language Categories noted in column three are to be completed for every activity noted in column one. For each activity, check the Language Categories of the students participating in the activity. The Language Category Definitions and abbreviations follow.

Language Category Definitions

Balanced Bilingual (BB)--Totally fluent in both English and Spanish.

Partial Bilingual, English Dominant (BE)--Understands all spoken English and produces English utterances with *native-like* fluency and correctness in syntax (grammar) and vocabulary. Understands some spoken Spanish and can produce fairly complete sentences in Spanish but with *less than native-like* fluency. His/her sentences in Spanish are somewhat awkward with regularized errors in syntax and vocabulary.

Partial Bilingual, Spanish Dominant (BS)--Understands all spoken Spanish and produces Spanish utterances with *native-like* fluency and correctness in syntax (grammar) and vocabulary. Understands some spoken English and can produce fairly complete sentences in English but with *less than native-like* fluency. His/

APPENDIX 5 (continued)

her sentences in English are somewhat awkward with regularized errors in syntax and vocabulary.

Monolingual English (ME)--Understands all spoken English and speaks English with ease and *complete native-like* fluency and correctness. If any Spanish is understood or spoken, it is no more than a few isolated words or expressions.

Monolingual Spanish (MS)--Understands all spoken Spanish and speaks Spanish with ease and *complete native-like* fluency and correctness. If any English is understood or spoken, it is no more than a few isolated words or expressions.

Limited English/Limited Spanish (LL)--Does *not have native competence* in *either* English or Spanish. It may appear that he/she understands spoken English and Spanish but the oral production in *both* languages is labored, characterized by awkward sentences and systematic errors in syntax (grammar) and vocabulary.

In column four, the Primary Instructor of the Instructional Activity should be indicated. Alternatives are the Teacher, Team Teacher, Resource Teacher, Teacher Aide, and Other. Select one (✓) of these per activity noted in column one.

In column five, check the Language of Instruction for each activity listed in column one. Definitions of the four alternatives follow. Select a single category for each Instructional Activity.

Language of Instruction

Primarily English. Instruction is provided exclusively in English or primarily in English with only an occasional use of

APPENDIX 5 (continued)

Spanish during the instructional period.

Primarily Spanish. Instruction is provided exclusively in Spanish or primarily in Spanish with only an occasional use of English during the instructional period.

Alternating Use of Both Languages. Both languages are used approximately an equal amount of time during the instructional period. As distinguished from code-switching, alternating use of the two languages is characterized by exclusive use of one language at a time during an instructional event.

Code-Switching. This form of language involves introducing into the context of one language stretches of speech that exhibit the other language's phonological and morphological features.

In column six, indicate the Language of Materials for each Instructional Activity. The alternatives are English, Spanish, Both, or No Material. Select one (✓) of these for every activity noted in column one.

APPENDIX 5 (continued)

BILINGUAL CLASSROOM QUESTIONNAIRE

1		2		3					
CURRENT DAILY SCHEDULE (of your homeroom students)		ANTICIPATED DURATION		LANGUAGE CATEGORIES* OF STUDENTS WITHIN INSTRUCTIONAL ACTIVITIES					
Hours	Activity	Continuous (All Year Long)	Non-continuous (Please indicate e.g., 1 day each week, every other week, 2 weeks out of every 4, etc.)	BB	BE	BS	ME	MS	LL

*Key: BB = Balanced Bilingual
BE = Partial Bilingual, English Dominant
BS = Partial Bilingual, Spanish Dominant
ME = Monolingual English
MS = Monolingual Spanish
LL = Limited English/Limited Spanish

APPENDIX 5 (continued)

BILINGUAL CLASSROOM QUESTIONNAIRE

4					5				6			
PRIMARY INSTRUCTOR OF INSTRUCTIONAL ACTIVITY (Check One)					LANGUAGE OF INSTRUCTION (Check One)				LANGUAGE OF MATERIALS (Check One)			
Teacher	Team Teacher	Resource Teacher	Teacher Aide	Other	Primarily English	Primarily Spanish	Alternating Use of Both	Code Switching	English	Spanish	Both	No Material

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Before coming to the Southwest Educational Development Laboratory, he was an assistant professor, Department of Education, New Mexico Highlands University. He has a PhD in Curriculum Instruction from the University of Texas at El Paso.

Stephan L. Jackson is currently employed as an Educational Specialist with the Desegregation Assistance Center for National Origin Students at the Intercultural Development Research Association (IDRA) in San Antonio, Texas. He recently completed his PhD in Curriculum Instruction at the University of Texas at Austin.

Dr. Jackson has had 10 years of work in various capacities of bilingual education projects, including evaluation of Title VII projects, training of bilingual education teachers, program planning and implementation, and bilingual Montessori projects.

He has been involved in ethnographic studies on the life histories of Mexican-American children and the relationship between their cultural background and test performance on measures of language, cognitive style, cognitive development, and achievement.